WEATHER, FORECASTS, AND WARNINGS FOR THE MONTH.

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For the month, as a whole, both precipitation and temperature were above normal east of the Rocky Mountains, except in the Southwest, where temperatures were somewhat low for the season; west of the Rocky Mountains, conditions were exactly reversed, with exceptionally low temperatures over the extreme Southwest, where the persistence and duration of the low temperatures have not been equaled in many years.

In the United States the month opened with temperatures above normal in the northern half of the country and below in the South, with departures of from 10° to 20° in the South Atlantic and Gulf States in connection with a high-pressure area that was central over southern Louisiana. Frosts and freezing temperatures were reported as far south as the interior of central Florida, warnings of which were issued well in advance. Pressure was also high in the Rocky Mountain region, while low pressure prevailed from the Upper Lakes eastward to the Canadian Maritime Provinces.

A low-pressure area, that was central on the morning of the 1st over Ontario, moved thence eastward to northern New York by the morning of the 2d, attended by light snows in the Lake region, and by the following morning it had passed off the Maine coast, causing snows and rains in New England and northern New York. It was followed by decided falls in temperature in the districts mentioned. A low that was central on the morning of the 1st over Alberta, moved to Manitoba by the morning of the 2d. Thence it passed southeastward with increasing intensity, and by the following morning was central over the Upper Ohio Valley, having caused snows in the region of the Great Lakes. By the evening of the 3d, it was over southeastern Virginia, whence it moved northeastward over the Atlantic Ocean, attended by high winds on the Long Island and southern New England coasts.

The display of storm warnings on the Great Lakes was discontinued for the season at the termination of December 5, 1911.

The following bulletin was issued Sunday, December 3

There are no indications of unusually low temperatures the coming week in any part of the country; in fact, temperatures will average near or above the normal in all districts, and the only change to colder weather in sight will occur in the northeastern districts on Monday, following the eastward movement of a disturbance that was over the Ohio Valley on Sunday. This disturbance will be attended by snows or rains, followed by clearing Monday in the Middle Atlantic and New England States. Aside from the precipitation attending this storm, the next several days will give fair weather in practically all districts east of the Rocky Mountains.

The next disturbance of importance to cross the United States will appear on the North Pacific coast Tuesday or Wednesday, cross the Middle West Thursday or Friday, and the Eastern States at the close of the week. This disturbance will be preceded by a general rise in temperature and be attended by rains in southern and rains or snows in northern districts from the Pacific coast eastward and be followed by a change to colder weather, which will appear in the Northwest at the close of the week.

A high that appeared over the Plains States on the morning of the 3d advanced to Indiana by the following morning, and by the morning of the 5th to western Virginia. This high caused colder weather over all districts east of the Rocky Mountains. It remained practically stationary over the Middle Atlantic States from the 5th to 10th, causing a stagnation of storm movement in the central and southern districts from the Mississippi Valley eastward. An almost typical summer condition prevailed, with warm southerly winds, and temperatures rose in consequence from the Appalachians to the Mississippi Valley, being from 20° to 30° above normal during the latter part of this period. No precipitation of consequence occurred in the South Atlantic, East and Central Gulf States, and Tennessee from the 5th to 9th. On the 5th a low appeared off the Washington coast, causing rain and some high winds, for which warnings were ordered at the proper time. It moved to the Southern Plateau during the following day with decreasing intensity and then disappeared.

A low appeared over Alberta on the morning of the 5th and passed to Manitoba by the 6th. On the 7th it was over Ontario, and passing thence northeastward disappeared without causing any precipitation. Over the country as a whole, with the exception of the west Gulf and north Pacific States, no precipitation of consequence was reported from the 4th to 8th. During the 8th and 9th, however, scattered precipitation occurred over the upper Ohio Valley and the Lake region, accompanied by warm southerly winds and high pressure. On the 8th a depression was over Lower California. Storm warnings were issued for the southern California coast and severe winds occurred over that region as forecast. On the morning of the 9th the low was central over southwestern Texas, showers being reported over the west Gulf States, and another low was central over Saskatchewan. By the evening of that date the southern storm had advanced to the southern Plains States with increasing intensity while the northern one had decreased. By the morning of the 10th the southern storm was central over Iowa, with lowest reported barometer 29.26 inches at Des Moines, and by the following morning had passed north-northeastward into Canada. Attending the movement of this storm, precipitation occurred from the Rocky Mountains to the Appalachians and warmer weather prevailed over the eastern half of the country. Precipitation was heavy over the lower portions of the watersheds of the Missouri, Mississippi, and Ohio rivers. Following the rapid northward movement of this storm, an unsettled condition developed over the west Gulf States during the evening of the 10th and extended northward in a trough-like form.

The following bulletin was issued Sunday, December 10:

The warm weather over the eastern half of the country will give way to seasonal temperature in this region by Tuesday or Wednesday.

There are, however, no indications of unseasonably low temperature in any part of the country until next Thursday or Friday, when a change to considerably colder weather will overspread the Northwestern States. The pressure over the Northern Hemisphere as shown by the International Weather Chart is such as to indicate that the next several days will be unsettled, with more than the normal rainfall in the region east of the Mississippi Valley, while in the Plains States, the Rocky Mountain and Plateau regions, and the Pacific States, except Washington and Oregon, where there will be rains, the weather

will be generally fair during the coming week. A disturbance that is now over the Mississippi Valley will move northeastward down the St. Lawrence Valley during Monday and Tuesday, and there are strong indications that another disturbance will appear in the Southeastern States about Wednesday or Thursday and move thence up the Atlantic coast.

Conditions in the Gulf States remained unsettled after the 10th, and showers occurred during the next two or three days in that region and also throughout the trough, which extended on the morning of the 11th from the middle Gulf States through the Ohio Valley northeastward to Quebec. The trough and unsettled conditions moved slowly eastward during the 12th and 13th, and on the morning of the 13th a disturbance of slight intensity, which had apparently developed in this unsettled trough, appeared over eastern Maine, causing snows and rains over portions of New England, New York, Pennsylvania, and the Lower Lakes. Small craft warnings were issued for the Atlantic coast from New York to Boston on the afternoon of the 13th and brisk to high winds occurred over that section. During the 13th the storm moved rapidly northward and by the morning of the following day had passed to the Grand Banks with a barometer reading of 29.24 inches at St. Johns, Newfoundland.

On the morning of the 14th pressure was relatively high over central districts and low over the Gulf, with the presence of a secondary disturbance evidenced by a cyclonic circulation over northern Mississippi. This disturbance advanced to the Ohio Valley by the evening of the 14th, and another disturbance of minor intensity was central off Cape Hatteras. By the following morning the Ohio Valley disturbance had passed to western New York and apparently dissipated. The storm off Hatteras passed northward up the coast and by the evening of the 15th was off Nantucket. On the morning of that day storm warnings were ordered for the New England coast from Block Island to Boston, and high winds were experienced over the region mentioned in the warnings. The storm was not thereafter traceable on the weather charts. These disturbances gave general precipitation east of the Mississippi River, except in the upper Lake region.

A slight disturbance appeared in the vicinity of Turks Island during the 10th and 11th, a maximum wind velocity of 36 miles from the southwest being reported during the afternoon of the 11th with a pressure of 29.68 inches at the morning observation of that date. The disturbance moved westward, and on the morning of the 12th was central immediately north of eastern Cuba. Thereafter it decreased in intensity and apparently disappeared into the Gulf of Mexico, as indicated by the pressure changes and shifts of the wind at Habana and the southern Florida stations.

From the 7th to 12th, pressure was high over the middle plateau and the middle Pacific States. On the evening of the 11th a separate high developed over Colorado, with an extension that showed as a separate anticyclonic circulation on the morning of the 12th over the middle slope of the Rocky Mountains. By the morning of the 13th it was central over Indiana, and by the morning of the 14th had passed to the Middle Atlantic coast attended by temperatures near freezing in the latter region, the New England States, and the Lake region. It moved thence northeastward and by the following morning was central over New Brunswick.

Although pressure was below normal for several days over the Gulf, it was not until the morning of the 15th that a low of definite form appeared over the Louisiana coast. Whether or not this disturbance was a redevelopment of the storm of tropical origin that seemingly disappeared into the Gulf several days before, can not be definitely stated, but it is probable that such was the case. By the morning of the 15th the storm was over eastern Arkansas with increasing intensity and by the following morning had advanced to the southern upper Lake region with still further increased intensity. A secondary disturbance developed during the afternoon of the 16th over eastern North Carolina, and the evening map of that date showed two separate centers, the northern, or main center, over Lake Ontario decreasing, and the other, the secondary, over New Jersey, increasing. By the morning of the 17th the northern low had rapidly passed northeastward into Canada, while the secondary was central near Cape Cod. The weather map of the following morning showed no trace of either storm. Precipitation in the form of rains in central and southern and snows in northern districts was reported in connection with this storm from the Mississippi Valley eastward to the Atlantic coast. Following its passage a high-pressure area advanced eastward from the Plains States, reaching the upper Mississippi Valley by the morning of the 17th, with two centers, one over eastern North Dakota and the other over Indiana.

The following bulletin was issued Sunday, December 17:

There are strong indications that the coming week will be marked by a renewal of rapid movement of areas of high and of low barometric pressure across the United States. Temperatures generally will undergo decided changes, and the precipitation, which will be in the form of snow and rain in northern and rains in southern districts, will be above the normal.

A disturbance that is now over the western plateau will advance eastward and cross the great central valleys Monday and Tuesday and reach the Eastern States by Tuesday night or Wednesday.

Another disturbance will appear in the far West about Thursday, cross the Rocky Mountains Friday, the great central valleys Saturday or Sunday, and the Eastern States at the beginning of Christmas week.

These disturbances will be attended by general precipitation and decided changes in temperature.

By the morning of the 18th the northern center of high pressure had advanced to Minnesota, while the other remained stationary over Indiana. During the next 24 hours the high advanced as a single center and with slightly increased intensity. It was central on the morning of the 20th over northern New York with temperatures ranging from 10° to 20° over that section, and, passing thence northeastward, reached Newfoundland by the morning of the 23d.

A storm from the north Pacific Ocean passed inland during the 16th and was central over Utah on the morning of the 17th. It was attended by high winds on the Washington coast, for which warnings were ordered on the 15th. Warnings were also issued for the northern California coast on the 16th and for the southern California coast on the 17th, both of which were justified. By the morning of the 18th the storm center had advanced southeastward to New Mexico, and on the morning following was over eastern Texas, with two distinct centers, one over northeast Texas and the other off the coast. It was attended by rains and snows and was followed by decidedly colder weather due to the southward advance of a high-pressure area that had previously passed inland from the north Pacific coast during the 17th. Storm warnings were ordered on the morning of the 19th for the Gulf coast, and on the morning of the 20th the wind at Pensacola reached a velocity of 80 miles an hour from the southeast, the southern section of the Texas storm having by that time reached the Alabama coast. High winds also occurred along the south Atlantic coast during the 20th, for which warnings were ordered during the evening of the 19th. The storm disappeared during the night of

the 20th. On the 18th cold-wave warnings were issued for Colorado and southern Utah, and temperature falls of 20° or more occurred in those sections.

On the morning of the 19th a low appeared over British Columbia, and by the following morning it had advanced to Saskatchewan. By the morning of the 21st the interior Texas disturbance was over Nebraska with decreased intensity, while the northern low had apparently disappeared. The Nebraska low continued its northeastward progress, and by the morning of the 22d was central over western Ontario, having caused rains and snows over practically the entire country from the Rocky Mountains eastward. During the night of the 20th a low passed inland over Lower California and was central on the morning of the 21st over the southern Rocky Mountain region. Storm warnings were ordered on the morning of the 20th for the southern California coast, and the high winds that followed did some damage to shipping. By the evening of the 22d the storm was central over southern Texas, and by the following morning had advanced to southern Alabama. During the 22d another low developed over the south Atlantic States in a rather poorly defined trough extending from the Ontario low, before mentioned, southeastward to the Carolinas and thence southwestward to the East Gulf States. On the morning of the 23d two low centers appeared, one over the St. Lawrence Valley and the other off the Massachusetts coast (Nantucket barometer, 29.32 inches), with heavy rains, high temperatures, and some high winds. By the following morning the disturbance had advanced to the Grand Banks, with lowest reported pressure 28.84 inches at St. Johns, Newfoundland. Conditions in the East Gulf States still remained unsettled, and on the 23d a secondary disturbance appeared over the extreme west Florida coast, causing rains in that section and passing off the South Carolina coast during the following day. It caused rains for several days in the East Gulf and South Atlantic States.

The North Pacific high area of the 17th remained practically stationary for several days, but by the morning of the 22d it was central over the middle plateau with increased intensity, accompanied by changes to much lower temperatures, and an offshoot from the high was central over Colorado, Pueblo, Colo., reporting a temperature of 4° below zero. By the morning of the 23d the plateau high had retreated to the middle Pacific coast, causing killing frosts in northern California, and the Colorado high had settled southward over New Mexico and northern Mexico with decreased intensity. Warnings were issued on the previous day for the California frosts. A section of the high pushed eastward and northeastward, and by the evening of the 23d was over western Tennessee with greatly decreased intensity. By the following evening it was over the Appalachian Mountains, over eastern North Carolina on the morning of the 25th, and on the following morning off the middle Atlantic coast. It caused changes to colder weather over Southern States east of the Rocky Mountains.

The following bulletin was issued Sunday, December 24:

Stormy weather will prevail the coming week over the North Atlantic steamship routes, the British Isles, and Europe. The coldest weather of the season now prevails in the interior of Alaska, the lowest temperatures reported from that region being 52° below zero at Tanana and 46° below zero at Eagle.

The indications are that the first part of the coming week will be unsettled, with snow or rain in northern and rain in southern districts east of the Rocky Mountains, attending the eastward movement of a disturbance that now covers the Middle West.

Another disturbance will appear in the far West about the middle of the week, cross the Middle West about Thursday or Friday, and the Eastern States at the close of the week; it will be attended by general precipitation. A pronounced change to colder weather will overspread the Northwestern States Tuesday and Wednesday and advance eastward and southward over the Eastern and Southern States during the latter half of the week, terminating the prolonged period of unseasonably high temperatures in these districts.

Another low appeared over Alberta on the morning of the 22d and by the morning of the 23d was central over Saskatchewan with greatly increased intensity. Storm warnings were ordered for the north Pacific coast on the morning of the 22d, and winds of storm force occurred as indicated in the warnings. The storm advanced eastward, and by the morning of the 24th was over Manitoba with a trough to the southward and indications of a secondary development over the southern Rocky Mountain region. The main center moved rapidly northeastward into Canada by the morning of the 25th, and temperatures fell 20° to 30° or more over the Plains States and Rocky Mountain region, warnings of which had been previously issued. A secondary low-pressure area was then over New Mexico, and pressure was high with temperatures below normal in the central districts from the middle Pacific coast to the middle Atlantic coast. By the morning of the 26th the southern low had advanced to Missouri, attended by general precipitation in the form of snow in the Plains States and the Upper Mississippi Valley and rains in the Gulf States, Ohio Valley, and South Atlantic States. The disturbance moved rapidly northeastward and was central over eastern Ontario on the morning of the 27th, by which time the area of precipitation had spread northward to the Lake region and eastward to the Atlantic coast. On the 28th the storm center was over the Canadian Maritime Provinces with a barometer reading of 28.96 inches at Sydney, Nova Scotia. This storm persisted off the Grand Banks until the 30th, causing severe gales over the steamer routes and along the Atlantic coast from Hatteras northward, warnings of which had been previously issued. Following the eastward advance of this low from the southern plateau region during the 25th and 26th pressure was high on the middle and south Pacific coast for several days. On the 26th and 27th special warnings of freezing weather were issued to citrus-fruit growers of California advising them to "fire early." Temperatures fell below the danger point on the 27th and 28th; but as the warnings were well distributed and early action was taken to fire in the orchards the loss was comparatively light, probably not one-tenth as much as that of two years ago when a similar cold wave occurred.

The coldest weather in years was also experienced over the southern plateau, but the timely warnings minimized the losses. During the 26th a high-pressure area advanced eastward from the middle Pacific coast, and by the following morning was central over the Texas Panhandle, causing decided falls in temperature in the West Gulf States, warnings for which were issued in due time. By the following morning, the 28th, the high area was central over northern Mississippi and another had appeared over the Canadian Northwest, with temperature 28° below zero at several stations; cold-wave warnings were issued for the Plains States and Mississippi Valley and cold waves occurred as forecast. On the morning of the 29th the southern high was central over the Appalachian Mountains, causing very low temperatures for the season in that region and in the Gulf States, timely warnings of which were given. The other high area was over Manitoba, with a temperature of 38° below zero at Prince Albert, Saskatchewan. On the morning of the 30th there were three centers of high pressure, one over eastern North Carolina, one over eastern Ontario, and another over Manitoba. The southern high passed into the Atlantic Ocean and the Ontario one had advanced to New Brunswick, while the

Manitoba one decreased in intensity and settled down over the northern Rocky Mountain region by the following morning.

A low passed southeastward over the north Pacific coast during the 27th, causing storm winds, warnings of which were issued on the previous day. It was central on the morning of the 28th over Nevada, having caused precipitation over most of the country west of the Rockies. By the evening of the 28th it had settled southeastward, with isobars trending to the eastward well in advance of the center. By the morning of the 29th this eastward extension had assumed the form of a separate low over southwestern Iowa, and the main center had moved southeastward to southeastern Texas with decreased intensity. It was not thereafter traceable on the weather charts. Rains and snows occurred quite generally west of the Mississippi River and the snowfall at Fresno, Cal., on the 29th was the heaviest that has occurred in the memory of the oldest inhabitants. In Kansas and the Dakotas heavy snows interrupted railway traffic. By the evening of the 30th the Iowa low was over northwestern Missouri and on the following morning it was central over southern Wisconsin, with a trough extending southeastward to the Gulf. By the evening of that date it was central immediately north of Lake Huron and the area of precipitation had spread to the Atlantic coast, being in the form of snows over the northern and rains over the southern and central districts.

The high area that settled down over the northern Rocky Mountain region on the morning of the 31st was central over the Dakotas on the evening of that date, while a high of slight intensity, that had advanced from the middle Pacific coast on the morning of the 30th, was central on the evening of the 31st over Arkansas, attended by changes to decidedly colder weather throughout the Mississippi Valley and west Gulf States, warnings of which were issued on the 30th. The month closed with temperatures above normal in the Atlantic States, while elsewhere throughout the country they were below normal, especially in the Plains States and the northern Rocky Mountain region, where they ranged from 20° to 38° below the seasonal average.

The following bulletin was issued Sunday, December 31:

There will be stormy weather the coming week over the North Atlantic steamer routes, the British Isles, and northwestern Europe.

In the United States wintry weather will be general during the greater part of the coming week. A marked change to colder weather will overspread the region east of the Mississippi River within the next 36 to 48 hours, with the line of freezing temperature extending southward to the Gulf and south Atlantic coasts and to northern Florida. Unseasonably cold weather will continue the next several days in the Middle West, the Southwest, and the Rocky Mountain region.

A storm that is now over the upper Lake region will move down the St. Lawrence Valley during Monday, attended by snow in the region of the Great Lakes, the upper Ohio Valley, the interior of New York and New England; it will be followed by clearing weather elsewhere east of the Mississippi River during Monday. The next disturbance of importance to cross the United States will appear in the far West Monday or Tuesday, cross the Middle West Wednesday or Thursday and the Eastern States Friday; this disturbance will be preceded by a reaction to normal temperature, be attended by general snows in northern and rains in southern districts, and be followed by decidedly colder weather.

NORTHERN HEMISPHERE PRESSURE.

Alaska.—Pressure was almost continuously below normal during the first and second decades of the month, while during the last decade it was generally above. Depressions occurred about the 4th, 9th, 14th, 18th, 21st, 24th, 29th, and 30th–31st, and crests about the 1st–2d, 6th–7th, 12th, 17th, 20th, 22d–23d, 26th–27th, and 30th.

Honolulu.—Pressure averaged above normal for the month, crests occurring on the 2d, 6th, 14th, 20th–21st, 27th–28th, and on the 31st. It was relatively low on the 4th, 12th, 17th, 26th, and 29th.

Iceland.—Pressure was below normal, except about the middle of the month and from the 27th to 29th. Lows occurred on the 1st, 3d–4th, 6th–7th, 17th, 19th–20th, 21st–22d, 25th, and 30th–31st, and pressure was relatively high on the 2d, 5th, 8th, 16th, 18th, 23d, 27th, and 29th. Reports were missing from the 8th to 15th. During the 10th and 11th severe gales occurred over the English Channel.

Azores.—Pressure was above normal during the first decade, while during the second and third it was generally below. Highs occurred on the 3d, 5th, 8th, 10th, 14th–15th, 24th, and 29th, and lows on the 1st, 6th–7th, 9th, 13th, 17th, 25th–26th, 27th–28th, and on the last of the month. The lowest pressure reported was 29.38 inches on the 17th.

Siberia.—Pressure was generally above normal during the first and second decades over western Siberia, while over the eastern half it averaged about normal, although fluctuating from low to high and high to low. Lows occurred on the 1st–2d, 5th, 10th–11th, 15th–16th, 20th, 24th, and 28th–29th, and highs about the 3d, 7th, 12th, 18th, 22d, 26th, and 30th.

A hurricane is reported to have struck the coasts of Costa Rico and Honduras on the afternoon of the 5th, causing enormous damage to the banana crop.

Average temperatures and departures from the normal.

Districts.	Number of stations.	Average temperatures for the current month.	Departures for the current month.	Accumulated departures since Jan. 1.	Average departures since Jan. 1.
New England	12	35.5	+ 6.2	+ 9.5	+ 0.8
Middle Atlantic	15	40.2	+ 5.3	+ 13.2	+ 1.1
South Atlantic	10	51.0	+ 3.8	+ 23.2	+ 1.9
Florida Peninsula [1]	8	65.9	+ 4.8	+ 24.6	+ 2.0
East Gulf	11	52.7	+ 3.6	+ 30.6	+ 2.6
West Gulf	12	49.0	− 1.1	+ 28.6	+ 2.4
Ohio Valley and Tennessee	14	41.2	+ 4.4	+ 23.8	+ 2.0
Lower Lakes	10	35.1	+ 5.8	+ 15.3	+ 1.3
Upper Lakes	13	29.7	+ 5.2	+ 22.8	+ 1.9
North Dakota [1]	9	14.6	+ 2.3	− 8.6	− 0.7
Upper Mississippi Valley	14	32.2	+ 4.8	+ 22.7	+ 1.9
Missouri Valley	12	29.4	+ 2.5	+ 27.1	+ 2.3
Northern slope	9	21.0	− 2.5	− 7.2	− 0.6
Middle slope	6	29.8	− 3.2	+ 20.6	+ 1.7
Southern slope [1]	7	38.8	− 3.6	+ 25.3	+ 2.1
Southern plateau [1]	9	36.7	− 4.6	− 6.1	− 0.5
Middle plateau [1]	10	22.7	− 4.7	− 5.5	− 0.5
Northern plateau [1]	11	29.1	− 1.6	− 11.6	− 1.0
North Pacific	7	41.4	− 0.2	− 11.0	− 0.9
Middle Pacific	5	46.9	− 1.4	− 15.1	− 1.3
South Pacific	4	50.9	− 1.8	+ 0.2	0.0

[1] Regular Weather Bureau and selected cooperative stations.

Average precipitation and departures from the normal.

Districts.	Number of stations.	Average.		Departure.	
		Current month.	Percentage of normal.	Current month.	Accumulated since Jan. 1.
New England	11	3.20	94	− 0.20	− 3.70
Middle Atlantic	15	3.31	106	+ 0.20	− 3.50
South Atlantic	11	4.26	116	+ 0.60	− 14.80
Florida Peninsula [1]	8	3.29	127	+ 0.70	− 9.30
East Gulf	11	7.84	173	+ 3.30	− 1.00
West Gulf	12	5.61	207	+ 2.90	− 4.30
Ohio Valley and Tennessee	14	5.12	145	+ 1.60	+ 1.00
Lower Lakes	11	2.81	100	0.00	+ 0.50
Upper Lakes	13	2.77	96	− 0.10	+ 1.50
North Dakota [1]	8	0.50	83	− 0.10	+ 1.00
Upper Mississippi Valley	15	2.18	122	+ 0.40	+ 1.10
Missouri Valley	13	2.02	198	+ 1.00	− 3.60
Northern slope	9	0.74	88	− 0.10	− 0.50
Middle slope	6	2.02	246	+ 1.20	− 2.90
Southern slope [1]	7	2.81	278	+ 1.80	− 4.50
Southern plateau [1]	9	0.25	33	− 0.50	+ 2.70
Middle plateau [1]	11	0.65	62	− 0.40	+ 0.50
Northern plateau [1]	11	1.15	66	− 0.60	− 2.80
North Pacific	7	5.34	67	− 2.60	+ 0.90
Middle Pacific	7	2.41	55	− 2.00	− 2.20
South Pacific	4	1.86	86	− 0.30	+ 5.50

[1] Regular Weather Bureau and selected cooperative stations.

Average relative humidity and departure from the normal.

Districts.	Average.	Departure from normal.	Districts.	Average.	Departure from normal.
New England	75	− 1	Upper Mississippi Valley	82	+ 4
Middle Atlantic	76	+ 1	Missouri Valley	78	+ 3
South Atlantic	78	0	Northern slope	78	+10
Florida Peninsula [1]	82	0	Middle slope	72	+ 6
East Gulf	78	+ 1	Southern slope [1]	74	+ 8
West Gulf	77	+ 3	Southern plateau [1]	58	+12
Ohio Valley and Tennessee	78	+ 2	Middle plateau [1]	68	− 2
Lower Lakes	80	+ 2	Northern plateau [1]	77	− 3
Upper Lakes	84	+ 2	North Pacific	88	+ 2
North Dakota [1]	90	+11	Middle Pacific	71	−10
			South Pacific	61	− 8

[1] Regular Weather Bureau and selected cooperative stations.

Average cloudiness and departure from the normal.

Districts.	Average.	Departure from normal.	Districts.	Average.	Departure from normal.
New England	6.5	+0.4	Upper Mississippi Valley	6.4	+0.6
Middle Atlantic	6.5	+0.7	Missouri Valley	5.2	0.0
South Atlantic	5.9	+1.0	Northern slope	5.8	+0.6
Florida Peninsula [1]	5.2	+0.5	Middle slope	4.2	+0.1
East Gulf	6.6	+1.1	Southern slope [1]	4.9	−0.1
West Gulf	6.3	+1.1	Southern plateau [1]	2.5	−0.7
Ohio Valley and Tennessee	7.2	+0.9	Middle plateau [1]	5.1	+0.3
Lower Lakes	7.7	0.0	Northern plateau [1]	7.3	+0.5
Upper Lakes	7.1	−0.2	North Pacific	8.1	+0.3
North Dakota [1]	7.1	+1.7	Middle Pacific	4.3	−1.1
			South Pacific	2.9	−1.4

[1] Regular Weather Bureau and selected cooperative stations.

Maximum wind velocities.

Stations.	Date.	Velocity.	Direction.	Stations.	Date.	Velocity.	Direction.
Block Island, R. I.	4	50	ne.	North Head, Wash.	7	52	se.
Do.	27	50	w.	Do.	15	50	s.
Do.	28	64	w.	Do.	19	50	nw.
Do.	29	64	w.	Do.	26	66	se.
Buffalo, N. Y.	27	68	sw.	Pensacola, Fla.	19	60	e.
Do.	28	60	w.	Do.	20	80	se.
Do.	31	70	w.	Pittsburgh, Pa.	27	51	w.
Canton, N. Y.	27	50	w.	Point Reyes Light, Cal.	6	66	nw.
Cleveland, Ohio.	27	54	w.	Do.	8	54	nw.
Do.	28	50	sw.	Do.	16	60	nw.
Columbus, Ohio.	27	50	w.	Do.	17	54	nw.
Detroit, Mich.	31	53	sw.	Do.	19	70	nw.
Eastport, Me.	29	50	w.	Do.	20	54	nw.
Madison, Wis.	10	52	sw.	Do.	22	62	nw.
Mount Tamalpais, Cal.	12	56	ne.	Do.	23	74	nw.
Do.	19	55	n.	Do.	24	58	nw.
Do.	20	56	n.	Do.	27	62	nw.
Do.	22	66	nw.	Portland, Me.	29	52	nw.
Do.	23	61	nw.	Providence, R. I.	28	62	nw.
Do.	24	54	nw.	Seattle, Wash.	22	53	s.
Mount Weather, Va.	4	50	nw.	Southeast Farallon, Cal.	6	57	nw.
Do.	17	56	nw.	Do.	19	56	nw.
Do.	27	68	nw.	Do.	20	59	nw.
Do.	28	69	nw.	Do.	23	56	nw.
Nantucket, Mass.	4	50	ne.	Tatoosh Island, Wash.	8	52	s.
Do.	23	50	s.	Do.	19	50	w.
Do.	28	55	w.	Do.	22	66	s.
New York, N. Y.	4	50	n.	Do.	23	61	w.
Do.	27	64	nw.	Toledo, Ohio.	27	56	sw.
Do.	28	71	nw.	Do.	31	59	sw.
Do.	29	56	nw.				